



The Plasmon UDO60D/I

5.25 inch Optical Drive

User Manual

P/N 800-102901-00 A

PREFACE

Copyright

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Revision History

Revision	Date	Description
A	3/07	Initial release

NOTE

The most current information about this product is available on the Plasmon web site (www.plasmon.com).

Conventions Used

WARNING



A **WARNING** is used to alert the reader to situations or conditions that could potentially result in personal injury, fire hazard, or equipment damage.

WARNUNG

Eine **WARNUNG** ist benutzt, den Leser zu Lagen oder Bedingungen zu warnen, die möglicherweise in persönlicher Verletzung, Brandrisiko oder Gerätschaden resultieren könnten.

CAUTION



A **CAUTION** is used to warn of undesirable procedures, or of situations in which equipment damage could result.

NOTE

A **NOTE** is used to emphasize an area of text or to provide additional information.

WEEE Compliance

Plasmon products with the Waste Electrical and Electronic Equipment Directive (WEEE) label, shown below, can be shipped back to Plasmon for proper disposal of hazardous components. Please contact Plasmon Technical Support at the locations listed inside the back cover of this manual for the proper procedure.



Product Warranty

Plasmon warrants hardware products against defects in materials and workmanship and that the hardware conforms to Plasmon specifications for one year from date of purchase from Plasmon, depending on product type. This warranty provides for a no-cost repair or replacement of defective hardware upon return of hardware to a Plasmon Repair Depot. The decision to repair or replace is solely at the discretion of Plasmon. Plasmon reserves the right to use remanufactured parts, or products, that are equivalent to new in performance as replacements.

Site registration for warranty may be completed at: <http://www.plasmontech.com/warranty/index.html>

The Plasmon warranty is automatically activated 30 days from the date of shipment from the factory unless Plasmon is notified that an earlier commencement is requested.

Additional coverage may also be purchased. Please contact your local Plasmon support representative for more information and service contract details.

Spare parts are covered by a 180-day warranty. Remanufactured parts are covered by a 90-day warranty. Warranties for either spare parts or remanufactured parts are from the date of shipment, unless the original warranty of the unit is still in force and the remainder of the original warranty exceeds the stated warranty periods above.

CAUTION



Returning the drive in unauthorized packaging may damage the unit and void the warranty.

If problems with the drive occur, contact your maintenance organization; do not void the product warranty by allowing untrained or unauthorized personnel to attempt repairs.

WARNING



Untrained personnel operating the drive may create dangerous situations. This could lead to physical harm to the operator, data loss, and/or disabling of the drive.

WARNUNG

Ungeschultes Personal, das den Antrieb bedient, kann gefährliche Lagen bedingen. Dies könnte zu physischem Schaden des Bedieners, Datenverlust, oder Antrieb Sperre führen.

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CHAPTER 1

PRODUCT OVERVIEW

General Information

The Plasmon UDO60 is a RoHS compliant optical disk drive that reads and writes to 5.25 inch 60GByte UDO™ (Ultra Density Optical) media. UDO blue laser technology provides a high performance, reliable, and cost effective long term data storage device. The drive handles true Write Once, Rewritable, and Compliant Write Once media types.

To insure continued access to data stored on first generation media, this second generation UDO60 drive can read first generation 30GByte UDO media, but cannot write to it.

The UDO60 is available either as a desktop unit in its own enclosure (UDO60D), or for internal installation within a system enclosure (UDO60I). Each of these models is available with either SCSI or USB connectivity

Features

The main features of the UDO60D/I are:

- 60GByte (30GB per side) storage on rewritable and write once media
- Half height 5.25 inch form factor
- 32MByte data cache for write and read operations
- 28ms typical seek time
- Up to 80MBytes/sec synchronous data rates (Wide Ultra2 LVD SCSI), or 60MBytes/sec (USB 2.0)
- Universal AC supply operates from 100 to 240 volts (desktop version)
- RoHS compliant

About the UDO60D

The UDO60D is the desktop version of the drive. This drive ships in its own enclosure, which provides the appropriate connectivity. Plasmon offers either a USB or a SCSI connectivity option.

USB Connectivity

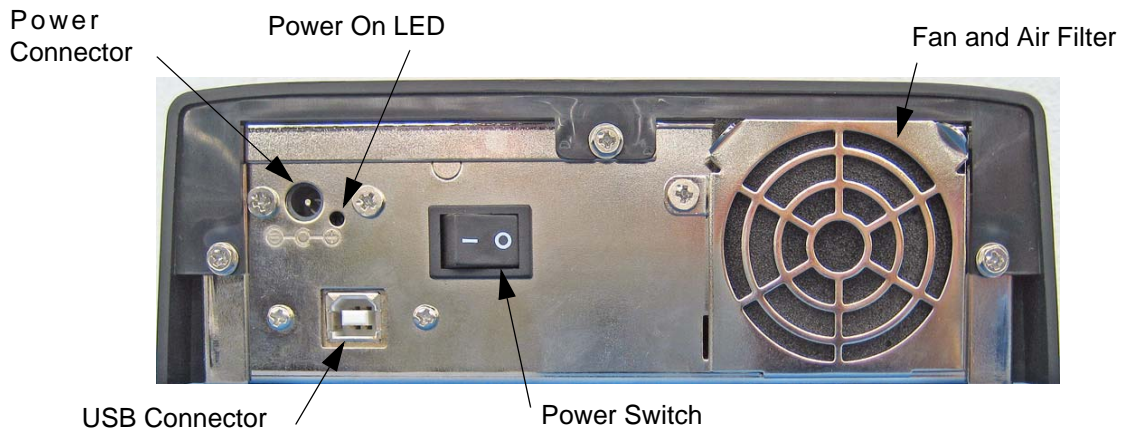


Figure 1. UDO60D-u Back View

The USB connector is a USB 2.0 Type B connector.

SCSI Connectivity

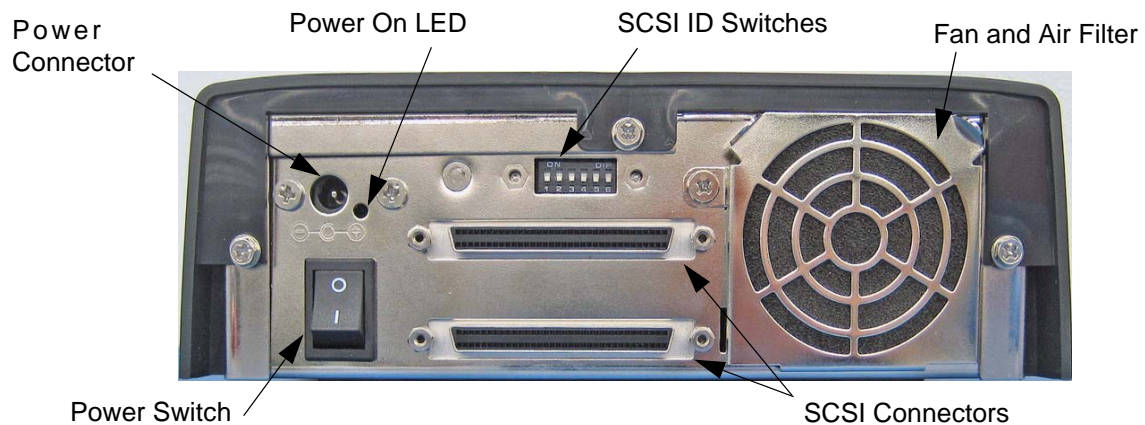


Figure 2. UDO60D-s Back View

The two SCSI connectors are SCSI-3 standard shrouded, keyed, 68-pin Micro-D connectors.

The SCSI ID switches are used to set the SCSI ID for the drive. Setting the SCSI ID is covered in the next chapter under *Setting Up the UDO60D*.

LED Functions

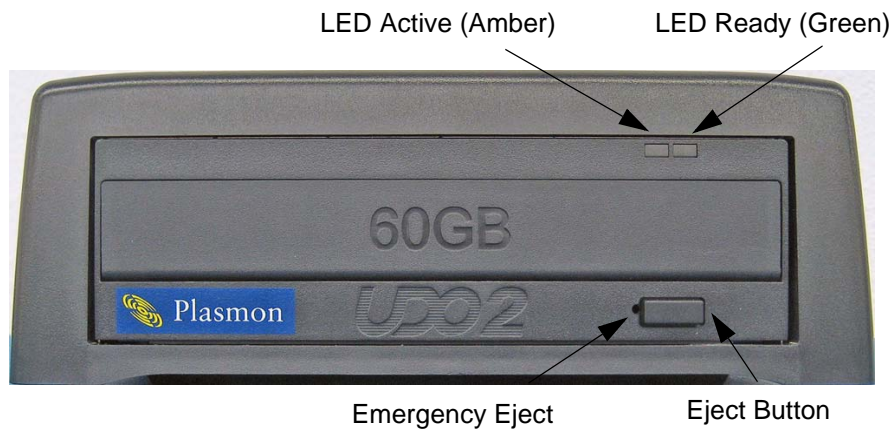


Figure 3. UDO60D Front View

On the front of the drive, there are two LEDs which function as explained in the following table.

Table 1. UDO60D LED Signals

LED Pattern	Active (Amber)	Ready (Green)
On	Accessing disk Power on diagnostic	Media Ready Power on diagnostic
Flashing 0.8 sec cycle On:Off = 1:1	NA	Inaccessible disk inserted (Drive Not Ready)
Rapid Flashing 0.2 sec cycle On:Off = 1:1	NA	Loading (spin up)
Slow Flashing variable cycle alternating LEDs	Amber/Green irregular alternating: Drive is in Fail-Safe mode Power on diagnostic error	
Slow Flashing 1.2 sec On, 1.2 sec Off	Both LEDs On for 1.2 sec and then Off for 1.2 sec. Indicates drive failed write power calibration (WPC) and should be cleaned using the Plasmon lens cleaning cartridge.	
Off	Disk not inserted After spin down Power off (Drive Not Ready)	

UDO60D Media Insertion and Removal

Pressing the eject button opens the drive door to allow insertion or removal of media. If the media cartridge is ejected, but not removed, the drive pulls the media back in after 30 seconds without spinning up. Press the eject button again to re-eject the media.

UDO60D Emergency Eject

If normal media eject procedures fail to work, and it becomes necessary to use the emergency eject mechanism, the unit must be powered off. Make sure the disk has stopped rotating (20-30 seconds after power off). To manually eject the cartridge, insert a 2mm flat blade screwdriver into the hole to the left of the normal eject button. Rotate the screwdriver clockwise while pressing it firmly into the drive to engage the eject screw mechanism. About 60 turns ejects the cartridge.

UDO60D Air Filters

The UDO60D is shipped with an air filter installed in the back of the casing. This air filter is required. When the filter is noticeably dirty, it must be replaced. Additional filters are supplied with the drive.

In Line Power Supply

The UDO60D is shipped with an in line power supply and power cord. Do not replace the supply with a substitute. An authorized replacement is available from Plasmon. Please refer to the *Accessories and Spare Parts* section at the end of this chapter.

About the UDO60I

The UDO60I is intended for installing in a system enclosure. It fits standard 5.25 inch device mounting spaces, and provides the appropriate connectivity. Plasmon offers either a USB or a SCSI connectivity option.

USB Connectivity

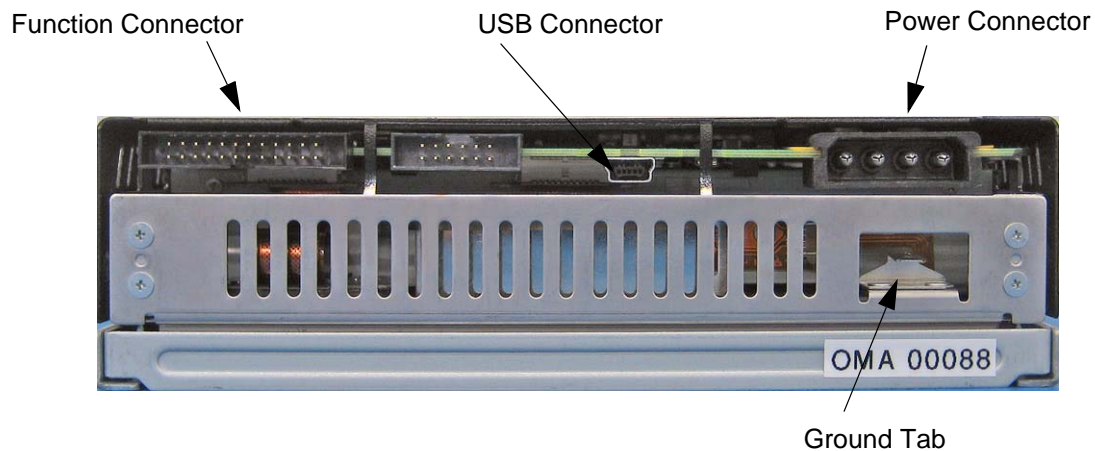


Figure 4. UDO60I-u Back View

The USB connector is a USB 2.0 Type B connector. A USB 2.0 mini B to 5-pin cable is supplied with this drive.

SCSI Connectivity

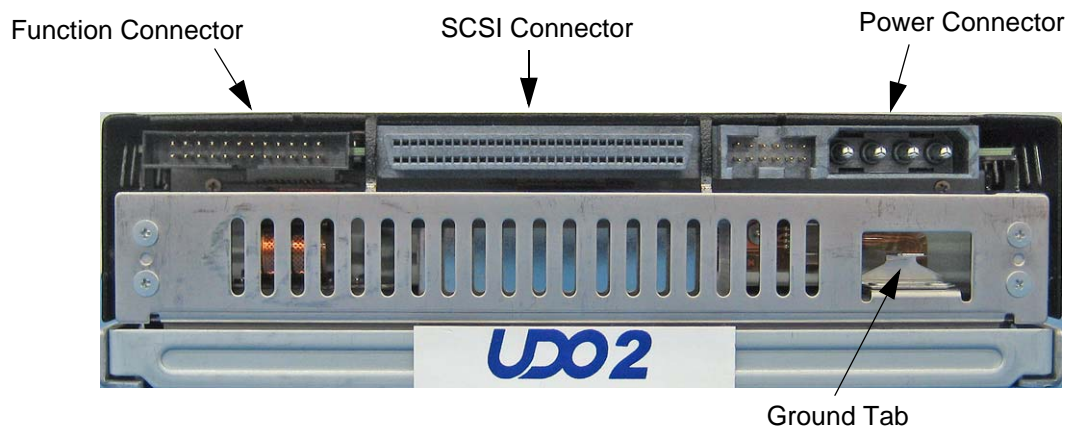


Figure 5. UDO60I-s Back View

The SCSI connector is a SCSI-3 standard, keyed, 68-pin connector. A flat SCSI cable with 68-pin connectors is supplied with this drive.

Power Connectivity

The UDO60I DC power connector is an industry standard, keyed, 4-pin connector.

Table 2. UDO60I Power Connector

Pin	Description
1	+12V DC @ 2.8A (Peak - 100ms Max), 0.6A (Typ)
2	+12V DC Return
3	+5V DC Return
4	+5V DC @ 2.5A (Max), 1.9A (Typ)

Function Connectivity

The Function connector is used by Plasmon when the drive needs to communicate within a data library. Here, the first four pairs of pins are used, with supplied jumpers, to set the SCSI ID for the drive. Setting the SCSI ID is covered in the next chapter under *Setting Up the UDO60I*.

LED Functions



Figure 6. UDO60I Front View

On the front of the drive, there are two LEDs. They function as explained in the following table.

Table 3. UDO60I LED Signals

LED Pattern	Active (Amber)	Ready (Green)
On	Accessing disk Power on diagnostic	Media Ready Power on diagnostic
Flashing 0.8 sec cycle On:Off = 1:1	NA	Inaccessible disk inserted (Drive Not Ready)
Rapid Flashing 0.2 sec cycle On:Off = 1:1	NA	Loading (spin up)
Slow Flashing variable cycle alternating LEDs	Amber/Green irregular alternating: Drive is in Fail-Safe mode Power on diagnostic error	
Slow Flashing 1.2 sec On, 1.2 sec Off	Both LEDs On for 1.2 sec and then Off for 1.2 sec. Indicates drive failed write power calibration (WPC) and should be cleaned using the Plasmon lens cleaning cartridge.	
Off	Disk not inserted After spin down Power off (Drive Not Ready)	

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Pressing the eject button opens the drive door to allow insertion or removal of media. If the media cartridge is ejected, but not removed, the drive pulls the media back in after 30 seconds without spinning up. Press the eject button again to re-eject the media.

UDO60I Emergency Eject

If normal media eject procedures fail to work, and it becomes necessary to use the emergency eject mechanism, the unit must be powered off. Make sure the disk has stopped rotating (20-30 seconds after power off). To manually eject the cartridge, insert a 2mm flat blade screwdriver into the hole to the left of the normal eject button. Rotate the screwdriver clockwise while pressing it firmly into the drive to engage the eject screw mechanism. About 60 turns ejects the cartridge.

UDO Media

The Plasmon UDO60 optical drive reads and writes to Plasmon 5.25 inch two sided UDO media cartridges with 60GByte capacity, and reads first generation 30GByte media. These are available in true Write Once, Rewritable, and Compliant Write Once media types. Compliant Write Once media provides for selective data destruction for security purposes.



Figure 7. UDO Media Types

UDO media is the same form factor as MO media. However, UDO media is not compatible with MO drives, and MO media is not compatible with UDO drives.

UDO media is two sided. To access side A, for example, insert the media with the side marked A facing up (toward top of drive).

New UDO media must be formatted before use. Refer to the software documentation on the supplied UDO Drive Resource CD.

Write Protecting Media

To write protect one side of the media, slide the write protect tab on that side in the direction of the protect arrow as shown in the figure below. There is a write protect tab on each side of the disk. When a side is protected, the write protect window is open.



Figure 8. Write Protecting UDO Media

Media Care and Handling

CAUTION



Always condition the media to room temperature before loading it into the UDO60 drive.

Media cleaning should only be performed by Plasmon trained personnel.

Improper handling or an inappropriate environment can damage the media. To ensure continued reliability:

- When media is loaded into the drive, or when handling media, ensure that the cartridge case is clean. Dirty media cartridges may cause problems. If a cartridge case is dirty, wipe with a lint free cloth.
- Do not carry media loosely (for example, in a box or basket).
- Do not load damaged media into a drive. Damaged media can interfere with reliability.
- Never touch the disk. Opening the cartridge door and touching the disk may interfere with read/write reliability.
- Do not expose the media to moisture or direct sunlight.

Software Drivers

The UDO60 optical drives are supplied with software for the Windows and Linux operating systems. When the UDO60 drive setup is complete, insert the provided UDO Drive Resource CD and follow the instructions to install the appropriate software.

CAUTION



Do not insert a media cartridge into the drive until the software installation is complete.

Accessories and Spares

Table 4. Accessories and Spares List

Part Number	Description
Media	
UDO60RWX5	Plasmon 60GB UDO Rewritable, 8,192 Bytes/sector: 50 year data life - sold in packs of five
UDO60WOX5	Plasmon 60GB UDO true Write Once, 8,192 Bytes/sector: 50 year data life - sold in packs of five
UDO60CWX5	Plasmon 60GB UDO Compliant Write Once, 8,192 Bytes/sector: 50 year data life - sold in packs of five
Spares	
910-100713-00	UDO60D in line power supply
910-100835-00	LVD SCSI Cable for UDO60D
910-100775-00	LVD SCSI Cable w/terminator for UDO60I
910-102466-00	USB 2.0 A to B Cable for UDO60D
910-102767-00	USB 2.0 mini B to 5-pin Cable for UDO60I
910-100736-00	UDO60D Fan Filters

CHAPTER 2

GETTING STARTED

Unpacking

When moving the UDO60 to an environment where there is a significant difference in temperature or humidity, leave the unit in its packaging for at least two hours.

Find a clean, flat, soft surface for unpacking.

For the UDO60I, full anti-static precautions should be followed while handling. Use an anti-static mat and ground when handling the internal unit. Always hold the internal unit by the frame only and do not touch any electrical components.

Refer to the enclosed packing list to verify the accessories supplied with the UDO60 drive.

Setting Up the UDO60D

For USB Connection

If the drive is connecting to a USB interface, follow these steps.

1. The UDO60D should only be used in the horizontal plane.
2. Connect the in line power supply and power cord to the unit, and connect the power cord to an appropriate grounded power source.
3. With the drive and the host computer both powered on, connect the USB cable between the UDO60D and the host computer.
4. Insert the UDO Resource CD, wait for it to auto-start, and install the UDO software. If the system does not support auto-start, open the CD and double click on the *autorun.exe* file.

CAUTION



Do not insert media into the drive until the software installation is complete.

For SCSI Connection

If the drive is connecting to a SCSI interface, before applying power follow these steps:

1. Set the SCSI ID of the drive via switches on the back of the unit. Refer to the section *About the UDO60D* in the previous chapter to locate the SCSI ID switches.

Each device on a SCSI bus requires a unique ID in the range of 0 to 15 (for Wide SCSI). ID 7 is usually reserved for the host computer. The UDO60D is shipped with SCSI ID 1 (0001) set as a default. There is a label next to the switches showing how to set IDs. This information is also shown in the following table.

Table 5. UDO60D SCSI ID Switches

Switch	SCSI ID Bits (binary)
1	SCSI ID Bit 3 (MSB)
2	SCSI ID Bit 2
3	SCSI ID Bit 1
4	SCSI ID Bit 0 (LSB)
5	TIN Enable
6	No Connection

Refer to the following table for switch settings.

Table 6. Setting UDO60D SCSI IDs

SCSI ID	Switch 1	Switch 2	Switch 3	Switch 4
0	-	-	-	-
1	-	-	-	On
2	-	-	On	-
3	-	-	On	On
4	-	On	-	-
5	-	On	-	On
6	-	On	On	-
7	-	On	On	On
8	On	-	-	-
9	On	-	-	On
10	On	-	On	-
11	On	-	On	On
12	On	On	-	-
13	On	On	-	On
14	On	On	On	-
15	On	On	On	On

The host computer must have a SCSI host adapter card such as the Adaptec 29160 equipped with a 68-pin Micro-D connector.

2. Connect the supplied 68-conductor LVD SCSI cable between the computer and the drive.

The UDO60D is equipped with two Micro-D 68-pin connectors on the rear panel. A SCSI bus must be terminated at each end of the line. One terminator is required on the last device in the chain. The other terminator is usually on the host computer or adapter card.

Refer to the documentation supplied with your SCSI card or computer system to check the host termination. This is normally enabled.

3. If the drive is the last device on the SCSI bus, install the supplied terminator in the drive's unused SCSI connector.
4. The UDO60D should only be used in the horizontal plane.
5. Connect the in line power supply and power cord to the unit, and connect the power cord to an appropriate grounded power source.
6. Apply power to the unit before applying power to the host computer.
7. Insert the UDO Resource CD, wait for it to auto-start, and install the UDO software. If the system does not support auto-start, open the CD and double click on the *autorun.exe* file.

CAUTION



Do not insert media into the drive until the software installation is complete.

The UDO60 also operates in single ended SCSI mode depending on the other devices connected to the SCSI bus.

Setting TIN Enable

Along with the SCSI ID switches on the back of the UDO60D enclosure is a switch (number five) for setting TIN Enable. Turning on TIN (Target Initiated Negotiations) enables the drive to negotiate Wide and Synchronous on the SCSI bus. The default setting for this switch is off since target devices do not normally initiate negotiation.

Some platforms, drivers, or adapter cards may fail to re-negotiate correctly under certain conditions. In this event the host computer cannot communicate with the drive over the SCSI bus. Enabling TIN allows the drive to re-negotiate and maintain communication with the host.

If communication is lost on power cycles or drive resets (at host boots), setting the TIN Enable switch may solve the problem. In general:

- Microsoft systems may need TIN enabled
- AIX, Unix, and Linux systems typically need TIN disabled

Setting Up the UDO60I

When handling the UDO60I, use full anti-static precautions as outlined in the *Unpacking* section. To install the drive in an enclosure, follow these steps:

1. Ensure that the power cable is correctly wired and that power is within the unit's specifications.
2. Ensure that adequate ventilation and cooling is provided. Plasmon recommends that filtered air is blown from the rear to front of the drive.

For USB Connectivity

If the drive is connecting to a USB interface, follow these steps:

1. Mount the drive in the enclosure. Attaching screws are supplied with the drive. The screws are M3 x 4mm. The mounting plate in the enclosure should be within 1.5mm to 2mm thick, including the washer.

CAUTION



Mounting plates differ in thickness. To avoid damage to the drive, only use screws that extend into the drive 1mm to 2mm maximum.

The UDO60I can be used in both the vertical and horizontal plane. If the vertical position is used, the drive should be on its left side with the power connector on top as shown in the figure below. In the horizontal position, the drive must be top side up.

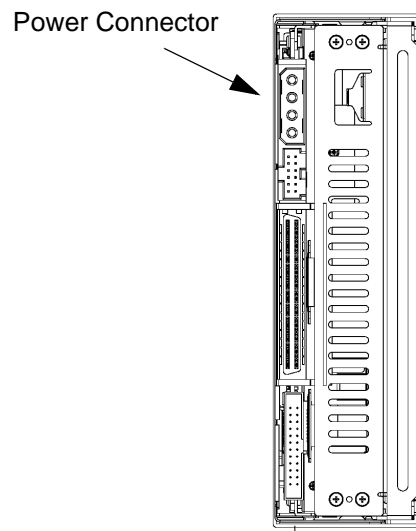


Figure 9. Proper Vertical Orientation for UDO60I

2. Connect the drive to the enclosure's USB 2.0 connector using the supplied mini B to 5-pin cable.
3. Attach the enclosure's power connector to the drive. The connector is keyed to ensure proper orientation.
4. Insert the UDO Resource CD, wait for it to auto-start, and install the UDO software.

CAUTION



Do not insert media into the drive until the software installation is complete.

For SCSI Connectivity

If the drive is connecting to a SCSI interface, before applying power follow these steps:

1. For convenience, set the SCSI ID for the drive before installing it in an enclosure.

Each device on a SCSI bus requires a unique ID in the range of 0 to 15 (for Wide SCSI). ID 7 is usually reserved for the host computer. The UDO60I is shipped with SCSI ID 1 (0001) set as a default.

The SCSI ID is set on the UDO60I by placing appropriate jumpers on the first four pairs of pins of the Function Connector located on the back of the drive. There is a label on the top of the drive which shows which pin pairs of the Function Connector are used to set the SCSI ID bits. The following figure also shows this information.

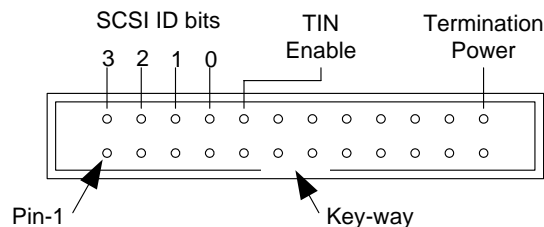


Figure 10. UDO60I Function Connector Jumper Options

Termination power is set at the factory as the default by placing a jumper across the last pin pair (pins 23 & 24).

The following table shows how the pin pairs relate to the SCSI ID bits.

Table 7. UDO60I SCSI ID Pin Pairs

Pins	SCSI ID Bits (binary)
1&2	SCSI ID Bit 3 (MSB)
3&4	SCSI ID Bit 2
5&6	SCSI ID Bit 1
7&8	SCSI ID Bit 0 (LSB)
9&10	TIN Enable

Refer to the following table for setting the drive SCSI ID.

Table 8. Setting UDO60I SCSI IDs

SCSI ID	Pins 1 & 2	Pins 3 & 4	Pins 5 & 6	Pins 7 & 8
0	-	-	-	-
1	-	-	-	Jumper
2	-	-	Jumper	-
3	-	-	Jumper	Jumper
4	-	Jumper	-	-
5	-	Jumper	-	Jumper
6	-	Jumper	Jumper	-
7	-	Jumper	Jumper	Jumper
8	Jumper	-	-	-
9	Jumper	-	-	Jumper
10	Jumper	-	Jumper	-
11	Jumper	-	Jumper	Jumper
12	Jumper	Jumper	-	-
13	Jumper	Jumper	-	Jumper
14	Jumper	Jumper	Jumper	-
15	Jumper	Jumper	Jumper	Jumper

2. Mount the drive in the enclosure. Attaching screws are supplied with the drive. The screws are M3 x 4mm. The mounting plate in the enclosure should be within 1.5mm to 2mm thick, including the washer.

CAUTION



Mounting plates differ in thickness. To avoid damage to the drive, only use screws that extend into the drive 1mm to 2mm maximum.

The UDO60I can be used in both the vertical and horizontal plane. If the vertical position is used, the drive should be on its left side with the power connector on top as shown in the figure below. In the horizontal position, the drive must be top side up.

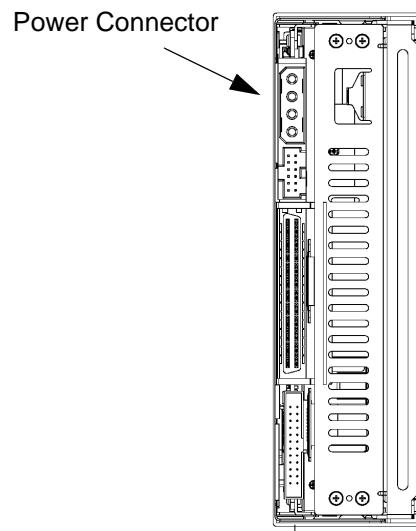


Figure 11. Proper Vertical Orientation for UDO60I

3. Connect the drive to the SCSI bus using the supplied 68-conductor flat cable. This cable has three keyed connectors and an attached SCSI terminator. For correct orientation, pin-1 is usually identified by some marking, or color, on the edge of the cable, and by a small arrow on the connectors.
4. Attach the enclosure's power connector to the drive. The connector is keyed to ensure proper orientation.

5. Insert the UDO Resource CD, wait for it to auto-start, and install the UDO software.

CAUTION



Do not insert media into the drive until the software installation is complete.

Setting TIN Enable

Along with the SCSI ID pins on the Function Connector on the back of the UDO60I is a pair of pins (9 and 10) which are jumpered to set TIN Enable. Turning on TIN (Target Initiated Negotiations) enables the drive to negotiate Wide and Synchronous on the SCSI bus. The default setting for TIN Enable is off (not jumpered) since target devices do not normally initiate negotiation.

Some platforms, drivers, or adapter cards may fail to re-negotiate correctly under certain conditions. In this event the host computer cannot communicate with the drive over the SCSI bus. Enabling TIN allows the drive to re-negotiate and maintain communication with the host.

If communication is lost on power cycles or drive resets (at host boots), setting the TIN Enable switch may solve the problem. In general:

- Microsoft systems may need TIN enabled
- AIX, Unix, and Linux systems typically need TIN disabled

APPENDIX A

SPECIFICATIONS

Drive Specifications

These specifications are subject to change without notice.

Table 9. UDO60 Drive Specifications

Specification	UDO60D	UDO60I
Access Times Average Seek (1/3 full stroke) Load Time Unload Time Rotational Speed (WORM/RW)	28 ms 5 sec 3 sec 2100/1950 RPM	28 ms 5 sec 3 sec 2100/1950 RPM
Data Transfer Rates Max Sustained Read Max Sustained Write & Verify Burst Synchronous (Fast SCSI enabled) Burst Synchronous (USB 2.0)	12 MB/s 6 MB/s 80 MB/s 60 MB/s	12 MB/s 6 MB/s 80 MB/s 60 MB/s
Buffer Size MTBF (Power On Hours) Number of Media Insertions	32 MB 100,000 hrs 750,000 cycles	32 MB 100,000 hrs 750,000 cycles
Environmental Operating Temperature Non-operating Temperature Operating Humidity Non-operating Humidity	+5 to +35°C -40 to +60°C 5 to 90% non-condensing 5 to 95% non-condensing	+5 to +45°C -40 to +60°C 5 to 90% non-condensing 5 to 95% non-condensing
Electrical Operating Voltage Power Requirements	100 to 240VAC, 50/60Hz 12V @ 4.2A Max, 50W	+5V ± 5%, +12V ± 5% +5V @ 2.5A (Max), 1.9A (Typ) +12V @ 2.8A (Max), 0.6A (Typ)
Structure Dimensions (WxHxD in mm) Weight	185 x 65 x 283 2.9 Kg (w/o power cord & supply)	146 x 41.1 x 207.8 1.5 Kg
Drive Orientation	Horizontal	Horizontal/Vertical
Drive Warranty	One year parts & labor return to base	One year parts & labor return to base

SCSI Cable Specifications

SCSI Cables and Connectors

Plasmon recommends using LVD SCSI cables and connectors that conform to SCSI-3 specifications.

The SCSI version of the Plasmon UDO60D is shipped with a shielded two meter LVD SCSI cable with shielded 68-pin Micro-D connectors. The UDO60I is shipped with an LVD flat SCSI cable with three keyed 68-pin connectors and a terminator attached.

SCSI Termination

The SCSI version of the Plasmon UDO60D is shipped with an LVD HD68 SCSI terminator. The UDO60I is shipped with a terminator attached to the flat cable. If the drive is the last device on a SCSI bus, termination is required.

USB Cable Specification

The USB version of the Plasmon UDO60D is shipped with a USB 2.0 A to B cable. The USB version of the UDO60I is shipped with a USB 2.0 mini B to 5-pin cable.

APPENDIX B

SAFETY AGENCY STANDARDS

FCC Notice

The equipment to which this manual pertains has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with this User's Guide, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna
- Increase the separation between the equipment and the receiver
- Connect the equipment into a circuit different from that to which the receiver is connected
- Consult the dealer or an experienced radio/TV technician for help

Industry Canada Notice per ICES-003

English: This digital apparatus does not exceed the Class B limits for radio noise emissions from digital apparatus set out in the interference-causing equipment standard entitled "Digital Apparatus," ICES-003 of the Industry Canada.

French: Cet appareil numérique respecte les limites de bruits radioélectriques applicables aux appareils numériques de Classe B prescrites dans la norme sur le matériel brouilleur: "Appareils Numériques", NMB-003 édictée par l'Industrie Canada.

European Notice

CE This product is in conformity with the following directive.

- EN 55022/CISPR 22, Class B
- EN 55024
- EN 61000-3-2
- EN 61000-3-3

This product is in conformity with the EMC directive and low-voltage directive.

Australia/New Zealand

This equipment has been tested and complies with AS/NZS 3548.

Japan

この装置は、情報処理装置等電波障害自主規制協議会（VCCI）の基準に基づくクラスB情報技術装置です。この装置は、家庭環境で使用することを目的としていますが、この装置がラジオやテレビジョン受信機に近接して使用されると、受信障害を引き起こすことがあります。
取扱説明書に従って正しい取り扱いをして下さい。

This is a Class B product based on the standard of the Voluntary Control Council for Interference from Information Technology Equipment (VCCI). If this is used near a radio or television receiver in a domestic environment, it may cause radio interference. Install and use the equipment according to the instruction manual.

Product Safety Standards

The Plasmon UDO60D/I drives comply with the following domestic and international product safety standards:

UDO60I

- UL Standard 60950-1, 1st Edition: 2003 Safety of Information Technology Equipment
- CSA Standard C22.2 No. 60950-1-03, Safety of Information Technology Equipment
- IEC 60950-1, 1st Edition: 2001

UDO60D

- UL Standard 60950, 3rd Edition: Safety of Information Technology Equipment
- CSA Standard C22.22 No. 60950-00 3rd Edition: Safety of Information Technology Equipment
- IEC 60950 3rd Edition: 1999

Laser Safety Notice

This drive complies with 21 CFR 1010.10, 1040.11, and IEC 60825-1:1993+A1:1997+A2:2001 as a Class 1 Laser product.

WARNING



Use of controls or adjustments, or performance of procedures other than those specified herein, may result in hazardous radiation exposure.

WARNUNG

Gebrauch von Steuerungen oder Regelungen, oder Leistung der Verfahren anders als die angegebene hierin, kann in gefährlicher Bestrahlungsaussetzung resultieren.

CLASS 1
LASER PRODUCT

LASER KLASSE 1
PRODUKT

CAUTION
CLASS 3B LASER LIGHT WHEN OPEN
AVOID EXPOSURE TO THE BEAM
VORSICHT
KLASSE 3B LASER LICHT WENN OFFEN
NICHT IN DEN STRAHL BLICKEN

Laser Technical Data

Type	GaN diode laser
Wavelength	408 nm \pm 5 nm
Maximum power	45 mW CW 60 mW pulsed

Class 1 product label located on the drive's outer enclosure.
Class 3B laser caution label located on drive's internal chassis.

Complies with IEC 60825-1:1993+A1:1997+A2:2001.

CDRH Regulations

The Center for Devices and Radiological Health (CDRH) of the U.S. Food and Drug Administration implemented regulations for laser products on August 2, 1976. These regulations apply to laser products manufactured from August 1, 1976. Compliance is mandatory for products marketed in the United States.

Use of controls, adjustments or performance of procedures other than those specified in this manual may result in hazardous radiation exposure.

Power Cord Set Selection

The voltage rating and the current rating of the power cord set shall be higher than the rated voltage and current of this unit. The voltage of the power cord set shall be higher than the power source.

For the U.S. and Canada:

Power cord must be UL listed and CSA labeled. Type SJT, SVT, ST, SJO or SO, 3-conductors, No. 18 AWG, rated 125V, 10A

CONTACTING PLASMON

Technical Support in the United States	
Plasmon Technical Support	+1-877-585-6793
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	+1-719-593-4192 (fax)
e-mail	tech.support@plasmon.com

Software and Driver Updates

Contact your service provider for the latest firmware and driver updates.

Before Placing a Service Call to Plasmon

Register your site on-line at <http://www.plasmontech.com/warranty/index.html>.

Placing a Service Call

Contact your service provider directly. If Plasmon is your service provider, please have the following information available when calling:

- Serial number
- Description of failure
- System information
 - Computer type and SCSI adapter
 - Software configuration
 - Software and version number



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Data Archival Solutions**